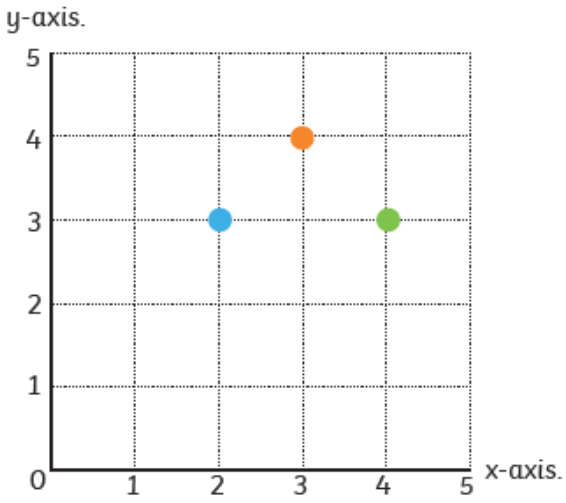
Position and Direction Year 5

Key Vocabulary	Definition
coordinate	Numbers used to locate a point on a grid
quadrant	A quarter of an area
x-axis	The horizontal axis of a graph
y-axis	The vertical axis of a graph (remember y goes high)
reflection	A mirror image
mirror line	a line drawn onto a shape to show that both sides have exact reflective symmetry
translation	When a shape is moved from one place to another just by sliding it (without rotating, reflecting or enlarging).
horizontal	A line parallel to the earth's surface.
vertical	A line which is at right angles to a horizontal line



Coordinates are a useful way to locate a position on a map or grid.

The numbers across the horizontal line of the grid are on the **x-axis**.

The numbers on the vertical line of the grid are on the **y-axis**.

We always read or write the number on the x-axis before the y-axis.

The x and y position are written in brackets with a comma.

The coordinate of the orange spot is **(3, 4)**.

To help you remember which point to read or write first, simply remember to move 'along the corridor and up the stairs'.

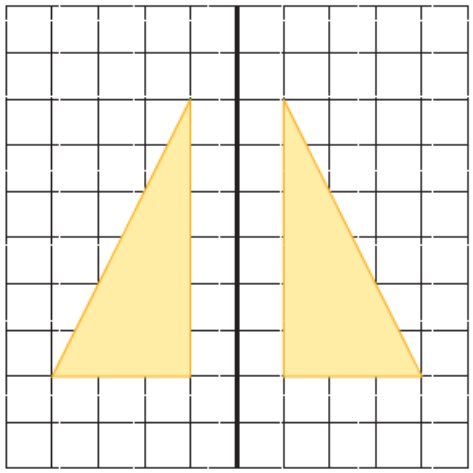
In other words, move on the **x-axis** and then move on the **y-axis**.

Real Life
• **Tube Map**- to find where you are going on the tube • **Hiking** – reading your position on a grid when you go hiking • **Latitude and longitude** – being able to locate places in the world using these invisible lines • **Car mirrors** – use reflection so you can see what is coming behind you • **Aeroplanes** – moving in the sky from one place to another • **A lift** – going up and down from floor to floor

Reflection

A shape is reflected when is flipped over a mirror line.

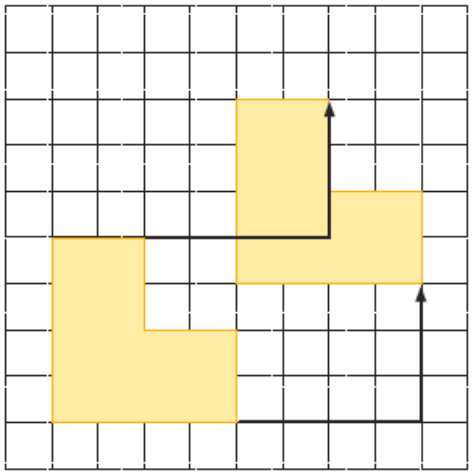
The reflected image is congruent to the original. This means that the measurements of the sides and angles have not changed. Each point of the reflected shape is the same distance from the mirror line as the original shape.



Translation

In maths, translation means moving an object on a grid. The object is moved without changing the size, turning or reflecting it.

When translating an object on a grid, it can move up or down, left or right.



Zooming out...

- **Coordinates** – Rene Descartes was a French mathematician who lived from 1596 to 1650. He was lying on his bed watching a fly! He realised he would be able to accurately describe the fly's position at any time ... and coordinates were invented!

Prior Knowledge

Plotting 2D Shapes

Each vertex (corner) of a 2D polygon can be represented as a coordinate on a 2D grid.